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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DYE, ROBERT C

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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02/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/581,769

Applicant(s)

CHRISTEL, ANDREAS

Examiner

ROBERT DYE

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 06 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/CIS)
Paper No(s)/Mail Date 06/06/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.

- (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
 - (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
 - (i) DETAILED DESCRIPTION OF THE INVENTION.
 - (j) CLAIM OR CLAIMS (commencing on a separate sheet).
 - (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
 - (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).
2. The disclosure is objected to because of the following informalities: The specification lacks section headings.
3. The specification cites "DE 102 11 673" twice on page 6, last line of paragraph 1. Appropriate correction is required.

Claim Objections

4. Claims 4-8 and 12-14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

8. In the present instance, claim 1 recites the broad recitation "a continuous multi-screw extruder having at least three screw shanks", and the claim also recites "in particular an annular extruder having at least six screw shanks" which is the narrower statement of the range/limitation.

9. Claims 1 and 9 recite the broad recitation "throughput characteristic Z greater than 800", and the claim also recites "in particular greater than 2750" which is the narrower statement of the range/limitation.

10. Claim 2 recites the broad recitation "a polycondensate", and the claim also recites "in particular a polyester" which is the narrower statement of the range/limitation.
11. Claim 4 recites the broad recitation "more than 800 kg/h", and the claim also recites "in particular more than 1000kg/h" which is the narrower statement of the range/limitation.
12. Claim 7 recites the broad recitation "the process does not exceed 60 seconds", and the claim also recites "in particular 30 seconds" which is the narrower statement of the range/limitation.
13. Claim 7 recites the broad recitation "not to exceed 15 seconds", and the claim also recites "in particular not to exceed 10 seconds" which is the narrower statement of the range/limitation.
14. Claim 8 recites the broad recitation "plurality of hollow items", and the claim also recites "in particular parisons from food packages" which is the narrower statement of the range/limitation.
15. Regarding claim 8, the phrases "parisons like beverage bottles" and "e.g.," render the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
16. Regarding claims 1 and 9, it is also unclear as to what "length" is being measured.

17. Claim 3 recites the limitation "the polycondensate" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 3 is dependent upon claim 1 or 2. Claim 1 does not contain polycondensate.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

21. Claims 1, 2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Treece et al. (USP 5,968,429, of record) in view of Innerebner et al. (WO 03/078135, and Derwent Abstract).

22. Regarding claims 1 and 9, Treece et al. (hereinafter Treece) teach a method and apparatus for molding articles from thermoplastics comprising the steps of plasticizing the plastic via a multi-screw extruder ("one or more screws", col 6, lines 36-37) and a step of press-molding the plastic into a mold (col 8, lines 50-58).

23. While Treece teaches the use of a multi-screw extruder, Treece does not expressly teach an extruder having at least three intermeshing screw shanks and having a throughput characteristic as claimed. In the same field of endeavor of multi-screw extruders, Innerebner et al. (hereinafter Innerebner) teaches a multiscrew extruder having eight screw shanks which intermesh (see figure 3B). It would have been obvious to a person having ordinary skill in the art to use the multi-screw extruder of Innerebner in the method and apparatus of Treece for the purpose of reducing the risk of mechanical and thermal damage to the material (Derwent abstract). Regarding the throughput characteristic, Innerebner teaches a multiscrew extruder with eight screw shanks and is specifically referenced by the Applicant's Disclosure as an example of an embodiment of the extruder used in the instant apparatus (Specification, pg 6, paragraph 1; WO03/078135 is part of patent family for DE10211673). Thus, the extruder of Innerebner is capable of the characteristic throughput as claimed.

24. Regarding claim 2, Treece teach that the thermoplastic is a polyester.

25. Regarding claim 10, Treece does not expressly teach an annular extruder. In the same field of endeavor of multi-screw extruders, Innerebner teaches an annular extruder wherein the screw shanks are arranged in a collar (see figure 3b) for the purpose of reducing the compression of polymers towards the outlet end, thus reducing the risk for damage (Derwent Abstract). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use an annular multiscrew extruder as taught by Innerebner for the purpose of reducing compression and risk for damage (Derwent abstract).

26. Regarding claim 11, Treece teaches that a motor is used to drive the multiple screws of the extruder (col 6, lines 37-38). Although Treece does not explicitly teach the presence of a reduction gear and power divider, such equipment is well known in the art and it would have been obvious to a person having ordinary skill in the art to use a reduction gear and power divider for the purpose of transferring a desired amount of power from the motor to the individual screw shanks, thus driving the rotation of each screw.

27. Treece teaches that the process section contains an outlet hole connected to vacuum station (vent nozzle 24 attached to a vacuum pump, col 7, lines 31-33) and that the melt path contains one or more control valves (shutoff valves 36-37, col 8, lines 66-67) as well as melt pumps 50 (see figure).

28. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Treece et al. (USP 5,968,429, of record) in view of Innerebner et al. (WO 03/078135, and Derwent Abstract) as applied to claims 1 and 2 above, and further in view of Niimi et al. (USP 5,286,187).

29. The hypothetical combination of Treece and Innerebner do not expressly teach a method wherein the polycondensate is dried prior to being fed into the extruder. In the same field of endeavor of molding polyesters, Niimi et al. teach a method wherein a polyester is first dried before being fed into the extruder for the purpose of preventing degradation of the resin (abstract). Thus, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to perform a drying step on the thermoplastic prior to the plasticizing step for the purpose of preventing resin degradation (abstract).

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stibal et al. (USP 5,656,719), Innerebner et al. (PGPub 2005/0001350), Innerebner et al. (PGPub 2004/0027911), Blach (USP 5,836,682).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT DYE whose telephone number is (571)270-7059. The examiner can normally be reached on Monday to Friday 8:00AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RCD

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791